Options FRMS Math 8B 2020		Scope and Sequence
Unit	**Lesson**	**Objectives**
Pythagorean Theorem and Irrational Numbers		
	Exploring the Pythagorean Theorem	
		Recognize perfect squares.
		Identify sets of Pythagorean triples.
		Apply the Pythagorean theorem using Pythagorean triples as the side lengths.
		Use Pythagorean triples to determine if a triangle is a right triangle.
	Estimating and Comparing Square Roots	
		Estimate square roots without using technology.
		Plot the estimated values of square roots on a number line.
		Make comparative statements involving square roots.
	Finding the Hypotenuse in Right Triangles	
		Use the Pythagorean theorem to find the length of the hypotenuse of a right triangle.
		Approximate the length of the hypotenuse of a right triangle to solve real-world problems.
	Unknown Leg Lengths in Right Triangles	
		Given the length of one leg and the hypotenuse of a right triangle, use the Pythagorean theorem to find the length of the other leg.
		Approximate the length of a leg of a right triangle to solve real-world problems.
	Converse to the Pythagorean Theorem	
		Determine if a triangle is a right triangle by using the converse of the Pythagorean theorem.
	Finding Distance in the Coordinate Plane	
		Apply the Pythagorean theorem to find the distance between two points on the coordinate plane.
		Generate and use the distance formula to find the distance between two points on the coordinate plane.

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Unit	**Lesson**	**Objectives**
	Pythagorean Theorem in Three Dimensions	
		Identify diagonals and right triangles within cubes.
		Solve for unknown side lengths of right triangles within a cube.
	Exploring Real Numbers	
		Classify numbers as rational or irrational numbers, and decimals as terminating or repeating.
		Express a repeating decimal with bar notation, and convert it to a fraction.
		Determine sums and products of rational and irrational numbers.
	Performance Task: Architectural Works and Wonders	
	Unit Test	
Congruence and Similarity		
	Transversals	
		Determine angle relationships created by a transversal line intersecting two nonparallel lines.
		Find unknown angle measures created by a transversal intersecting two or more nonparallel lines.
	Parallel Lines Cut by a Transversal	
		Identify interior angles, exterior angles, alternate interior angles, and alternate exterior angles when a transversal crosses parallel lines.
		Find missing measurements using angle relationships in a diagram of a transversal crossing parallel lines.
		Determine if two lines cut by a transversal are parallel.
	Sum of Interior Angles of a Triangle	
		Explain that the sum of the interior angles of a triangle is 180 degrees by rearranging the angles to create a straight line.
		Use angle relationships formed from parallel lines cut by transversals to establish facts about the interior angles of a triangle.

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Unit	**Lesson**	**Objectives**
		Determine the angle measures of interior angles of a triangle.
	Exterior Angles of a Triangle	
		Identify exterior, adjacent interior, and remote interior angles of a triangle.
		Use angle relationships to establish facts about exterior angles of a triangle.
		Determine angle measures of exterior angles of a triangle and the sum of exterior angles of a triangle.
	Similar Triangles	
		Identify proportionality of side lengths to determine triangle similarity.
		Write similarity statements of similar triangles.
		Analyze and apply third angle theorem and angle-angle criterion in similar triangles.
	Similar Triangles and Slope	
		Interpret similar triangles created by intersecting transversal and parallel lines.
		Find unknown measurements of similar triangles.
		Use similar triangles in the coordinate plane to write linear equations.
	Performance Task: Sign Production	
	Unit Test	
Working with Exponents		
	Powers and Exponents	
		Express a power of a positive integer base in expanded form.
		Express expanded form in exponential form.
		Evaluate powers using fractional and negative bases.
	Zero and Negative Exponents	
		Determine patterns of exponent values from a table.

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Unit	**Lesson**	**Objectives**
		Evaluate powers of zero and negative exponents.
		Simplify expressions of zero and negative exponents.
	Powers with the Same Base	
		Evaluate powers of the same base through multiplication and division.
		Simplify expressions of powers with the same base.
	Raising a Power to a Power	
		Simplify and evaluate expressions of raising a power to a power of integer exponents.
	Evaluating Expressions with Exponents	
		Simplify expressions using the rules of exponents.
		Evaluate expressions using substitution of the variables.
	Introduction to Scientific Notation	
		Convert very small or very large numbers between scientific notation and standard notation.
		Order and estimate products and quotients of numbers written in scientific notation.
	Unit Test	
Transformations		
	Congruence	
		Determine the congruence of figures by measuring corresponding sides and angles.
		Identify and write corresponding parts of congruent figures.
	Overview of Transformations	
		Identify types of transformations.
		Relate the result of a transformation to the original figure.
	Translations	

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Unit	**Lesson**	**Objectives**
		Identify and describe a translation on the coordinate plane.
		Translate figures on the coordinate plane given as an ordered pair and verbal expression.
		Describe a translation using coordinates.
	Reflections	
		Identify and describe a reflection on the coordinate plane.
		Reflect figures on the coordinate plane given the line of reflection.
		Describe a reflected figure using the line of reflection and coordinates.
	Rotations	
		Identify the image of a figure after a given rotation.
		Analyze a graph to determine the angle and direction of rotation of a figure.
	Rotations in the Coordinate Plane	
		Rotate figures on the coordinate plane given the degree and direction.
		Describe the rotation of a figure using coordinates.
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	